

DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

MAILING ADDRESS-U.S. COAST GUARD (MHM.) 400 SEVENTH STREET SW WASHINGTON. D.C. 20591 PHONE: (202)426-1217

• NVC 5-71

1 JUL 1971

NAVIGATION AND VESSEL INSPECTION CIRCULAR 5-71

Subject: Index to 46 CFR Part 151 (Certain Bulk Dangerous Cargoes on Unmanned Tank Barges), Subchapter 0

- 1. Purpose. The purpose of this circular is to provide a useful index to Subchapter O for unmanned tank barges.
- 2. Action. Any additions or corrections should be addressed to U. S. Coast Guard (MHM/83), 400 Seventh Street, S.W., Washington, D.C. 20591.

W. M. BENKERT

Captain, U. S. Coast Guard Acting Chief, Office of Merchant Marine Safety

Encl: (1) Index to Subchapter O

Dist. (SDL 93)

A: None

B: n(45); c(10); q(6); e(3); g(3); b(1); p(1)

C: m(4)

D: h(2); i(1)

E: None

F: ajpr(2)

List CG-12

1 JUL 1971

Bonding, electrical	See "Electrical bonding"
Breakwater, plowshare, required on open hopper barge	151.10-20(a)
Breathing apparatus	See "Respiratory equipment"
Buoyancy	See "Stability"
Capacity, maximum for tank	151.10-15(b), 151.45-6
Carbon bisulfide, sp. req.	151.50-40, 41
Cards, cargo information	151.45-2(e), (f) 151.45-3
Cargo boiloff, atmospheric venting not allowed	151.40-11, 151.40-1(a)
Cargo, bulk transportation of	151.01-15(a)
Cargo, dangerous; definition of	151.01-1
Cargo, definition of	151.03-9
Cargo filling lines, required to extend down into tank	151.20-20(d)
Cargo gauging devices	See "Gauging devices"
Cargo handling space, ventilation of	151.25-2
Cargo, high density	151.15-3(c)
Cargo Hoseconnections for cargo transferfor alkylene oxidesinspected and hydrostatically tested every two yearsrequirements for hose (if carried on barge)valve required at hose connection	151.45-4 151.50-10, 12 151.04-5(h), 151.20-15(c) 151.20-15 151.20-5
Cargo, maximum allowable temperature of	151.15-3(b)(4)
Cargo, maximum amount in tank	151.10-15(c), 151.45-6
Cargo, mixtures or blends	151.01-15

INDEX TO SUBCHAPTER O (UNMANNED TANK BARGES)

Title 46, Code of Federal Regulations, Part 151

ITEM	SUBPART OR SECTION
Access openings	See "Manhole Openings"
Acetylene, carriage with chlorine	151.50-31(r)
Acids	See "Inorganic acids"
Alarm, cargo high temperature/pressure	151.40-10, 151.50-60, 151.50-12
Alcohol, person under the influence	151.45-8
Alkylene oxides, sp. req.	151.50-10
Alternate equipment or apparatus, acceptance of	151.02-1
Ambient temperature	151.05-1(c)
Angle of downflooding	151.03-3
Anhydrous Ammonia, sp. req.	151.50-32
Anhydrous hydrogen chloride, sp. req.	151.50-33
Application of regulations	151.01-10
Approved, definition of	151.03-5
Authority for regulations	151.01-5
Ballast Valves	151.45-4(b)
Bargeapplication of regs tobox barge operated as lead bargedefinitionhull typestank barge, definition	151.01-10(f) 151.45-2(b) 151.03-7 151.10-1 151.03-51
Bilges, removal of water	151.45-2(d)
Bill of Lading	151.45-7
Boiloff, Cargo	151.40-1

•	
Cargo, not specifically named	151.01-15
Cargo Piping	
entry into tanks	151.20-1(g), (h)
entry into tames	151.20-1
generalhorizontal runs	151.20-1(i)
inspected and tested at same time	
inspected and tested at same same	151.04-5(i)
as tanks	151.20-1
joining of	see "low temperature piping"
low temperature	151.20-1
material req.	151.20-1(d), 151.20-5(h)
pressure rating and relief of	151.20-1(g)
protection of	151.13-10, 151.50-12, 151.50-13,
segregation	151.50-60
	131:30-00
Cargo, regulated by Subchapter D (list)	Table 151.01-10(d)
	Table 151.01-10(b)
Cargo, regulated by Subchapter O (list)	Table 101:01 10(2)
	Table 151.05 footnotes, 151.13
Cargo segregation	151.13-5
as applied to tanks	151.15-5
	151.45-2 , 151.45-3
Cargo signs and information cards	151.45-2 , 151.16 6
	See "Specific gravity"
Cargo specific gravity limits	See Specific Brains
Cargo, summary of minimum requirements	Table 151.05
for specific cargoes	
explanation of terms used	151.05-1
Cargo system instrumentation	151.20-10
Cargo by Stom and	
Cargo system valving requirements	151.20-5
cargo of comments of the	
Cargo Tanks	151 50-12
for alkylene oxides	151.50-10, 151.50-12
construction req.	151.15-3
control of environment in tank	151.25-1
design requirements	151.15-3, 151.50
fire exposure protection	See "Fire exposure protection"
Ilre exposure procedure.	151.50
hydrostatic testing	151.15-3(e)
installation of	151.04-5, Table 151.05,
internal inspection interval	151.50
	151.15-3(f)(2)
linings	151.20-5, 151.20-1(h)
penetration of piping	**************************************

Cargo Tanks (cont.)	
segregation	151 10 6
···types	151.13-5
venting of	151.15-1
	151.15-3, 151.15-5, 151.45-2(c), 151.50
Cargo tank hatches	151.45-2, 151.45-4
Cargo temperature control	151.40
Cargo transfer	151.20
Cargo transfer control	151.20-5
Cargo transfer methods	151.20-20, 151.50
Compa tura 5	
Cargo transfer operations	151.45-4
Certificate of Inspection	
cargo required to be listed uponinformation required to be	151.01-20(b), 151.04-1
endorsed upon	151.04-1, 151.10-15(c), 151.45-4(1)
Change in service	151.10-1(a)
Check valves	151.20-20(b), 151.50-12, 151.50-31(g)
Chlorine, sp. req.	151.50-31
Clearances, minimum	151.10-10(b), 151.15-3(d),
	151.20-1(g)
Closed gauging	151.15-10(c)
Coamings, required for hopper barges	151.10-20(a)
Coastwise, definition	151.03-11
Cofferdam	
definition of	
required for segregation	151.03-13 151.13-5
Collision chocks	151.15-3(d)(ii)
Collision protection	151.15-3(d), 151.20-1(g)
Combustible liquids	151.01-1
	- -

1 305 1011	
Commandant, definition	151.03-15
Compatibility	151.03-17, 151.20-1(h), 151.45-4(d), 151.13
Compressed gases	151.01-1, 151.50-30
Conflicting regulations	151.01-10(a)
Construction requirementsbarge hullcargo tank	151.10 151.15-3
Corrosive liquids	151.01-1
Damage stability	See "Stability"
Dangerous Cargo, definition of	151.01-1
Definitions of terms	151.03-1
Density, cargo maximum; endorsed on Certificate	151.10-15(c)
Designs, novel	151.02-5
Draft, limiting; endorsed on Certificate	151.10-15(c)
Drip pans	151.45-4(c)
Drugs, use affecting performance of duty	151.45-8
Effective dates of regulation	151.01-25, 151.01-30
Electrical bonding during cargo transfer	151.50-10(1), 151.50-34(d), 151.50-40(b), 151.50-50(p), 151.50-60(p)
Electrical grounding of cargo tank to hull	151.50-32(e), 151.50-12 151.50-34(c), 151.50-40(b), 151.50-50(p), 151.50-60(p)

Electrical installations	151.05-1(p),151.50
Elevated temperature	151.05-1(c)
Emergencies, action during	151.45-4(m)
Emergency procedures, listed on cargo information card	151.45-2(e)
Engine room, segregation from cargo tanks	151.13-5(a)(2), See also "Cargo Segregation"
Environment, definition	151.03-19
Environmental controlenvironment definedof environment within cargo	151.03-19
handling spaceof environment within cargo	151.25-2
tank	151.25-1
Equivalents, conditions for use	151.02-1
Ethyleneimine, sp. req.	151.50-60
Ethylene oxide, sp. req.	151.50-12, 10
Ethyl ether, sp. req.	151.50-40, 42
Excess flow valves	151.04-5(e), 151.15-10(f)(1), 151.20-5, 151.50-12, 151.50-31
Existing barges, application of regs. thereto	151.01-25
Expansion joints	151.20-1(e)
Explosives	151.01-1
Filling Density	151.03-21, 151.45-6(a), 151.50-12(i), 151.50-13, 151.50-30(e)
Filling line	151.20-20(d), 151.50-10(h), 151.50-60(g)

1 002 13/1	
Fire exposure, protection of cargo tanks	151.15-3(h)
Fire extinguishers, portable	151.30
Fire fighting procedures, listed on cargo information cards	151.45-2(e)
Fire, open, during cargo transfer	151.45-4(d)
Fire protection	151.30
Fixed tube gauging	151.15-10(g)
Flame arrestordefinitionfor alkylene oxide service	151.03-23 151.50-10(i)
Flame screen, definition	151.03-25
Flammable solids and liquids	151.01-1
Fluid displacement of cargo	151.20-20(c)
Freeboard	See "Stability"
Free surface effects	See "Stability"
Fusible elements	151.20-5(f)
Fusible plugs	151.50-12(f)
Gas free barges, regulation of	151.45-2(a)
Gas free, definition	151.03-27
Gas mask	See "Respiratory equipment"
Gauging devices	151.50-10, 151.50-31, 151.50-60(i)
use of glass in	151.15-10(i), (j)
Great Lakes, definition	151.03-29
Grounding, electrical	See "Electrical grounding"
Grounding calculations	151.10-20(b)
	•

Hazardous articles	151.01-1
Headlog clearance	151.15-3(d)
Headquarters, definition	151.03-31
Heat transmission parameters	151.15-3(b)
Heel	See "Stability"
High density cargo	151.15-3(c)
Hopper bargesconstruction requirementsoperating requirementssubdivision and damage stability	151.10-20 151.45 151.10-10
Hot work, repairs involving	See "Repair" and "Welding"
Hull structural requirements	151.10
Hull type, barge; Type I, II, III	151.10
Hydrochloric acid, sp. req.	151.50-22, 151.50-20
Hydrochloric acid, spent	151.50-22(d)
Hydrofluoric acid, sp. req.	151.50-24, 151.50-20
Hydrogen, carriage with chlorine	151.50-31(r)
Hydrogen chloride, anhydrous	151.50-33
Hydrogen fluoride, sp. req.	151.50-65
Hydrostatic testing	See specific item e.g., "Cargo Hose"
Illness affecting performance of duty	151.45-8
Incompatibility of cargoes	See "Compatibility"
<pre>Independent tankfor poisonssaddle analysis</pre>	151.50-5(b) 151.10-20(b)

Indirect or isolated gauging	151.15-10(d)
Inerting	151.25-1(a), 151.50-10(j), 151.50-12, 151.50-13, 151.50-40
Innerbottom, 15 inch min. clearance	151.10-10(b)
Inorganic acids, sp. req.	151.50-20
<pre>Inspection,clearancesfrequencyinitial inspection for Certificationinternal inspection of tanksitems to be inspected at</pre>	151.15-3(d)(2) 151.04-2, 151.50 151.04-3 151.04-5(b), Table 151.05, 151.50
recertificationnot req. for motor fuel antiknock	151.04-5
compound tanksprior to starting cargo transferspecial requirements for	151.50-6(d) 151.45-4(d)
alkylene oxidestesting in conjunction with	151.50-10(p), (q) 151.04-5
Insulation	151.15-3, 151.50-12(d)
Lakes, bays, and sounds, definition	151.03-33
Lights, required on barges	151.45-9
Limiting draft	151.03-35, 151.10-15
Lining of cargo tanks	151.15-3(f)
Log book, entries required	151.45-7
Low temperaturecargo tank required outagedefinitionpipingprotectionsecondary barrierinspection access	151.45-6 151.05-1(c) 151.20-1(f) 151.15-3(d) 151.13-5(c) 151.15-3(d)(4)(v)
LPG, carriage with chlorine	151.50-31(r)

Manhole openings in cargo tank	151.15-3(d)(3), 151.15-3(e)(4), 151.50
Manifest, cargo	151.45-7
Manned barges	151.01-10(e)
Manning	151.45-3, 151.45-4
Materials of construction	151.15-3(f), 151.20, 151.40-2, 151.50
Materials of construction, sp. req.	151.50, 151.55
Maximum allowable working pressure	151.03-37, 151.50-31, 151.50-32, 151.50-42, 151.50-60
Metacentric height	151.10-5(a)(2)
Minimum requirements, use of	151.01-20
Motor fuel antiknock compounds	151.50-6
Non-flammable cargoes, inspection requirements for	151.01-10(c)
Non-uniform loading	151.10-15(c)
Novel designs, acceptance of	151.02-5
Ocean service, definition	151.03-39
Officer in Charge, Marine Inspection	151.03-41
Open gauging	151.15-10
Open hopper barges	151.10-10, 151.10-20, 151.45-5
Operating requirementsgeneralpressure/temperature alarms	151.45-2 151.40-10
Outage, required	151.45-6, 151.50-20(e), 151.50-50(d)

1 JUL 1971	
Oxidizing materials	151.01-1
Padding	151.25-1(b), 151.50-13
Phosphoric acid, sp. req.	151.50-23
Phosphorus, elemental, in water, sp. req.	151.50-50
Pipe tunnels	151.20-1(h), 151.50-5(d)
Piping	See "Cargo Piping," "Vent Piping"
Placards	See "Signs"
Poisons	151.01-1, 151.50-5
Pressuredesignmaximum working; definitionterminology used	151.15-3(b) 151.03-37 151.03-43
Pressure and temperature control installations	151.40
Pressure gauge	151.20-10(b)
Pressure vacuum relief valve	151.50-5, 151.50-10(i), 151.50-50, 151.04-5(f), 151.15-5(b)
Pressure vessels	See "Cargo tanks"
Pressurization for cargo transfer	151.20-20, 151.50
Propylene Oxide, sp. req.	151.50-13
Purpose of regulations	151.01-1(a)
Quick closing valves	151.04-5(d), 151.20-5, 151.20-10(g), 151.50-12(f), 151.50-60(i)

```
Reaction, hazardous chemical when
     cargoes are mixed
                                       151.03-17, 151.20-1(h),
                                       151.45-4(d)
 Refrigeration, cargo tank
                                       151.15-3, 151.40, 151.50-12(e)
 ...definition of
                                       151.15-3(b)(5)
 Regulations
 ...application
                                       151.01-10
 ...authority for
                                       151.01-5
 ...effective date of
                                       151.01-25, 151.01-30
 ...purpose
                                       151.01-1
 Relief valve
 ...on cargo piping
                                       151.20-1(d)
                                       See also "Pressure vacuum relief
                                      valve" and "Safety relief valve"
 Remote operated valves
                                       See "Quick closing valves"
 Repair work during loading
                                       151.45-4(d)
Retairs involving welding or burning See "Welding"
Requirements, summary of minimum
    requirements for specific
    cargoes
                                       Table 151.05
 ...unreasonable and impractical
                                       151.02-1(b)
Respiratory equipment
...available during cargo transfer
                                       151.50-30(d)
...req. for ammonia
                                       151.50-32(g)
...req. for chlorine
                                       151.50-31(o)
...req. for phosphorus
                                      151.50-50(m)
Restricted gauging
                                      151.15-10(b), 151.15-10(f)
River service, definition
                                      151.03-45
Rupture disks
                                      151.15-5(d), 151.50-20(b)
Safety relief valve
...cargo tank
                                      151.15-3(h), 151.15-5(c), 151.50-5,
                                      151.50-10(i), 151.50-12(h), 151.50-13(c),
                                      151.50-30, 151.50-31, 151.50-42(c),
                                      151.50-50(c), 151.50-60(k)
```

1 705 1314	
Safety relief valve (cont.)required on vapor or gas pressurization linetesting	151.20-20(b) 151.04-5(g), 151.50-10(q),
Scope of regulations	151.01-1(a)
Sea valves	151.45-4(b)
Security of Type I and II barges when loaded	151.45-2(f)
Segregation of cargo	151.13, See also "Compatibility"
Service temperature	151.15-3(b)
Shipping papers	151.45-7
Side clearance,cargo tanklongitudinal wing bulkheads	151.15-3(d) 151.10-10(b)
Signals during cargo transfer	151.45-9
Signs,cargo warningon open hopper barges	151.45-2(e) 151.45-5(b)
Sounding tube	151.03-49, 151.15-10
Special requirements applicable to certain cargoes	151.50, 151.55
Specific gravity, maximum for tank	151.10-15
Spray filling lines	151.15-3(d)(4), 151.20-20(d)
Stabilitycalculationsdamagefree surface effectintact stabilitylongitudinaltransverse	151.10-15 151.10-10 151.45-2(d), 151.10-15(b) 151.10-5 151.10-5(b) 151.10-5(a)(1)

1 JUL 1971

1 100 1371	
Strength, longitudinal, calculation for non-uniform loading	151.10-15(c)
Stress relieving of tanks	151.15-3
Subdivision and damage stability	151.10-10
Substitution, acceptable as equivalent	151.02-1
Sulfur, liquid, special requirements	151.50-55
Sulfuric acid, special requirements	151.50-20, 151.50-21
Sulfuric acid, spent	151.50-21 (b)(5)
Superphosphoric acid	See "Phosphoric acid"
Surveillance (of Types I and II barges)	151.45-2(f)
Tank barge	See "Barge"
Tankerman	151.03-53, 151.45-4(a)
trained to use breathing apparatus	151.50-30(d)
Tanks	See "Cargo tanks"
Temperature, design	151.15-3(b)
Temperature and pressure control installations	151.40, 151.50-12, 151.50-55, 151.50-60(h)
Temperature sensor, remote	151.20-10(a), 151.50-10(f)
Tetraethyl lead (TEL)	See "Motorfuel antiknock compounds"
Thermal stresses	151.15-3, 151.20-1(e)
Towboatcargo, high temperature/ pressure alarm, audiblecargo information cardslogbook entry	151.40-10, 151.50-12, 151.50-60(h) 151.45-3, 151.45-2 151.45-7
responsible for keeping watch on barge	151.45-2(f)

ENCLOSURE (1) NAVIGATION	AND VESSEL INSTLICTION CIRCULAR No. 0"11
Toxic cargoes 1 JUL 1971	151.01-1, 151.50-5
Transverse bulkheads, minimum spacing for subdivision	151.10-10(b)
Trim	See "Stability"
Ullage openings	151.15-5(a), 151.15-10(a), 151.45-2(c)
Uninsulated cargo tanks	151.15-3(b)(1)
Valves	See "Excess flow valves", "Quick closing valves", "Safety relief valves", and "Check valves"
Valving, cargo transfer	151.20-5
Vapor recovery system	151.50-5(g), 151.50-10(i), 151.50-60(k)
Vent piping	151.15-6
<pre>Ventilationcargo handling spacecargo tank, forced and natural'</pre>	151.25-2, 151.50-5(h), 151.50-10(j) 151.25-1, 151.50-55(a)
Ventilation of voids around cargo tanksalkylene oxidesammoniacarbon bisulfideethyl etherethyleneiminemotorfuel antiknock compoundsphosphorus, elementalsulfur, liquid	151.45-2(d) 151.50-10(j) 151.50-32(d) 151.50-41(f) 151.50-42(b) 151.50-60(1) 151.50-50(j) 151.50-55
Venting of cargo tanksalkylene oxidescompressed gasesgeneralinorganic acidslining of vent systemopen ventingpoisonPV ventingsafety reliefsegregation of piping	See also specific cargoes 151.50-10(i) 151.50-30(b) 151.15-5 151.50-20 151.20-1(c) 151.15-5(a) 151.50-5(g) 151.15-5(b) 151.15-5(c) 151.13-10

Vessel, definition 151.03-55

Vinyl chloride, sp. req. 151.50-34

Voids around cargo tanks, ventilation required

...carbon bisulfide 151.50-41(f) ...ethyl ether 151.50-42(b)

Warning signals during cargo transfer

151.45-9

Warning signs 151.45-2, See also "Signs" and "Cargo Signs"

Watch, required for Type I and II barges while loaded 151.45-2(f)

Weight, maximum cargo, endorsed on Certificate 151.10-15(c)

Welding, not allowed on cargo
 tanks after stress relief 151.15-3(e)(5)

Welding or burning, repairs involving 151.50-12(c), 151.50-30(c), 151.50-60(c)